

We claim:

1. A hitch control system for a vehicle having a hitch for integrally attaching an implement thereto and an actuator for raising and lowering the hitch in response to a valve command signal, the hitch control system having a sensor for generating a parameter signal representing a parameter of the hitch, an operator-movable command lever, a transducer for generating a lever position signal, and a control unit generating a hitch command signal as a function of the lever position signal, the control unit having a closed-loop control mode wherein the valve command signal is generated in response to the parameter and hitch command signals, the improvement wherein:

the command lever comprises a spring-centered lever which is manually moveable from a centered position to deflected positions, and which automatically returns to the centered position when released from a deflected position.

2. The hitch control system of claim 1, wherein:

the control unit modifies the valve command signal by a predetermined magnitude in response to momentary deflection of the command lever to one of the deflected positions, said magnitude being independent of an amount and duration of deflection of the command lever if the duration is not more than a predetermined duration.

3. The hitch control system of claim 1, wherein:

the command lever has a proportional range of positions; and  
when the command lever is moved out of its centered position and held for at least a certain time period in a displaced position within said proportional range, the control unit modifying the valve command signal and moving the hitch at a rate proportional to a magnitude of the displacement of the command lever from the centered position.

4. The hitch control system of claim 1, wherein:

the command lever has a raise detent position displaced from its centered position; and

when the command lever is moved into the raise detent position, the control unit modifying the valve command signal to cause the hitch to raise to an upper limit

position.

5. The hitch control system of claim 1, wherein:

the command lever has a lower detent position displaced from its centered position; and

when the command lever is moved into the lower detent position, the control unit modifying the valve command signal to cause the hitch to lower to a lower limit position.

6. The hitch control system of claim 1, wherein:

the actuator comprises a hydraulic hitch cylinder, a raise valve for communicating the hitch cylinder with a pressure source and a lower valve for communication the hitch cylinder with a reservoir;

the command lever having a float position displaced from its centered position; and

when the command lever is moved into the float position, the control unit generating a valve command signal which causes the lower valve to open so that the hitch will move to a lowest mechanically allowed position.

7. The hitch control system of claim 1, wherein:

when the command lever is returned from a displaced position to the centered position, the control unit recalculates the command signal to match a sensed hitch position so that the hitch stops moving.

8. A hitch control system for a vehicle having a hitch for integrally attaching a ground engaging implement thereto and an actuator for raising and lowering the hitch in response to a valve command signal, the hitch control system having a sensor for generating a parameter signal representing a parameter of the hitch, an operator-movable command lever for generating operator hitch command signals, and a control unit for generating the valve command signals in response to the parameter and hitch command signals, the improvement wherein:

the command lever is moveable from a centered position to deflected positions; and

the control unit modifies the valve command signal by a predetermined magnitude in response to momentary deflection of the command lever to one of the

deflected positions, said magnitude being independent of an amount and duration of deflection of the command lever if the duration is not more than a predetermined duration.

9. A hitch control system for a vehicle having a hitch for attaching an implement thereto and an actuator for raising and lowering the hitch in response to a valve command signal, the hitch control system comprising:

a sensor for generating a parameter signal representing a parameter associated with operation of the hitch;

a spring-centered command lever which is manually moveable from a centered position to deflected positions, and which automatically returns to the centered position when released from a deflected position;

a transducer operatively coupled to the command lever and generating a lever position signal; and

a control unit generating a hitch command signal as a function of the lever position signal, the control unit having a closed-loop control mode wherein the valve command signal is generated in response to the parameter and hitch command signals.

10. The hitch control system of claim 9, further comprising:

a display unit coupled to the control unit, the display unit displaying an upward pointing arrow when the hitch raise valve is operating, and displaying a downward pointing arrow when the hitch lower valve is being operated.

11. The hitch control system of claim 9, further comprising:

a display unit coupled to the control unit, the display unit displaying an upward pointing arrow when the hitch is moving upwardly, and displaying a downward pointing arrow when the hitch is moving downwardly.